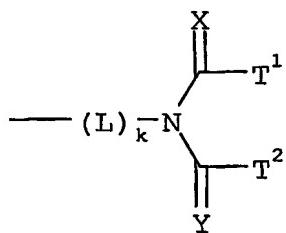


[CLAIMS]

1. A polymer comprising a phenolic monomeric unit wherein the H atom
 5 of the hydroxy group of the phenolic monomeric unit is replaced by a N-imide group Q having the structure



wherein L is a linking group,

wherein k is 0 or 1,

10 wherein L is covalently bound to the O atom of the polymer for k is 1, or wherein the N atom of the N-imide group is covalently bound to the O atom of the polymer for k is 0,
 wherein X or Y are independently selected from O or S, and
 wherein T¹ and T² represent a terminal group.

- 15 2. A polymer according to claim 1 wherein the terminal groups T¹ and T² are independently selected from an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein T¹ and T² together with the N-imide group represent the necessary atoms to 20 form a cyclic structure, or wherein T¹ and T² represent the following structures -L¹-R¹ and -L²-R²,

wherein L¹ and L² represent independently a linking group,

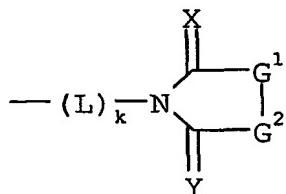
wherein R¹ and R² are independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen, -CN, or -NO₂,

or wherein two groups selected from each L¹, L², R¹ and R²

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together represent the necessary atoms to form a cyclic structure.

3. A polymer according to claims 1 or 2 wherein the N-imide group Q
5 has the following formula

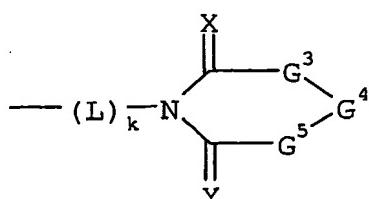


wherein G¹ and G² are independently selected from O, S, NR³ or CR⁴R⁵, with the limitation that G¹ is not O or S when G² is O and that G¹ is not O or S when G² is NR³,

10 wherein R⁴ and R⁵ are independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group or -L³-R⁶, wherein L³ is a linking group,

15 wherein R³ and R⁶ are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein two groups selected from each R³, R⁴, R⁵, R⁶ and L³ together represent the necessary atoms to form a cyclic structure.

- 20 4. A polymer according to claims 1 or 2 wherein the N-imide group Q has the following formula



wherein G³ to G⁵ are independently selected from O, S, NR⁷ or

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CR^8R^9 , with the limitation that at least one group, selected from G^3 to G^5 , is CR^8R^9 and that two neighbouring groups, selected from G^3 to G^5 , are not represented by O and S, by O and NR^7 , by S and NR^7 or by O and O,

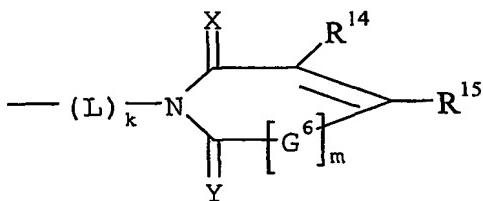
5 or wherein G^4 is a linking group,

wherein R^8 and R^9 are independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group or $-\text{L}^4-\text{R}^{10}$, wherein L^4 is a linking group,

10 wherein R^7 and R^{10} are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein two groups selected from each R^7 , R^8 , R^9 , R^{10} and L^4 together represent the necessary atoms to form a cyclic structure.

15

5. A polymer according to claims 1 or 2 wherein the N-imide group Q has the following formula



20

wherein G^6 is a group selected from O, S, NR^{11} or $\text{CR}^{12}\text{R}^{13}$,

wherein m is 0 or 1,

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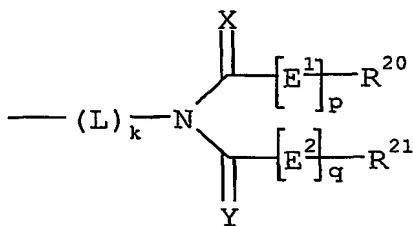
wherein R^{12} to R^{15} are independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group or $-\text{L}^5-\text{R}^{16}$, wherein L^5 is a linking group,

wherein R^{11} and R^{16} are independently selected from hydrogen or an

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optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein two groups selected from each R^{11} , R^{12} , R^{13} , R^{14} , R^{15} , R^{16} and L^5 together represent the necessary atoms to form a cyclic structure.

6. A polymer according to claims 1 or 2 wherein the N-imide group Q has the following formula



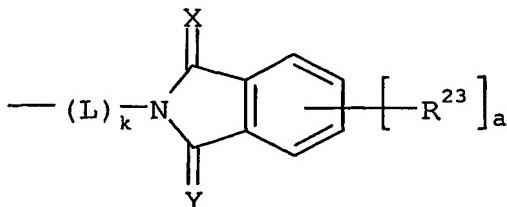
wherein E^1 and E^2 are independently selected from O, S, NR¹⁷ or CR¹⁸R¹⁹,

wherein p and q are independently 0 or 1,

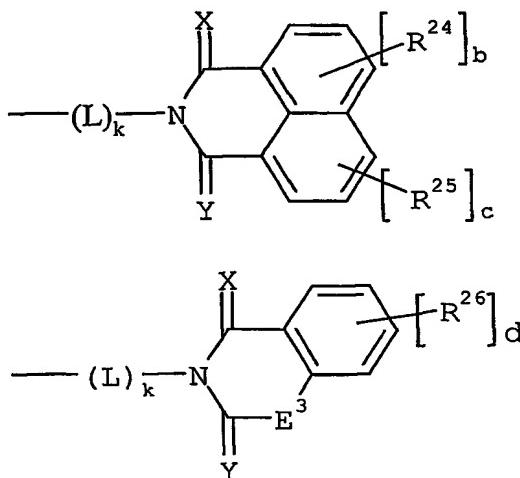
wherein R¹⁸ to R²¹ are independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group or -L⁶-R²², wherein L⁶ is a linking group,

wherein R¹⁷ and R²² are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group.

7..A polymer according to claims 1 or 2 wherein the N-imide group Q has one of the following formula:



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wherein each R²³ to R²⁶ are independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen, -SO₂-NH-R²⁷, -NH-SO₂-R³⁰, -CO-NR²⁷-R²⁸, -NR²⁷-CO-R³⁰, -NR²⁷-CO-NR²⁸-R²⁹, -NR²⁷-CS-NR²⁸-R²⁹, -NR²⁷-CO-O-R²⁸, -O-CO-NR²⁷-R²⁸, -O-CO-R³⁰, -CO-O-R²⁷, -CO-R²⁷, -SO₃-R²⁷, -O-SO₂-R³⁰, -SO₂-R²⁷, -SO-R³⁰, -P(=O)(-O-R²⁷)(-O-R²⁸), -O-P(=O)(-O-R²⁷)(-O-R²⁸), -NR²⁷-R²⁸, -O-R²⁷, -S-R²⁷, -CN, -NO₂, -N(-CO-R²⁷)(-CO-R²⁸), -N-phthalimidyl, -M-N-phthalimidyl, or -M-R²⁷, wherein M represents a divalent linking group containing 1 to 8 carbon atoms,

wherein R²⁷ to R²⁹ are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, wherein R³⁰ is selected from an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group,

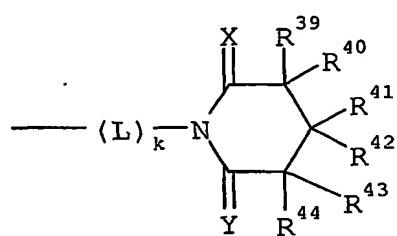
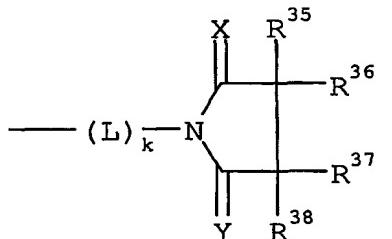
wherein a and d are independently 0, 1, 2, 3 or 4, wherein b and c are independently 0, 1, 2 or 3, wherein E³ is selected from O, S, NR³¹ or CR³²R³³,

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wherein R³² and R³³ are independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or -L⁷-R³⁴, wherein L⁷ is a linking group,

5 wherein R³¹ and R³⁴ are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group.

8. A polymer according to claims 1 or 2 wherein the N-imide group Q has one of the following formula:



10 wherein R³⁵ to R⁴⁴ are independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group,

15 halogen, -SO₂-NH-R⁴⁵, -NH-SO₂-R⁴⁸, -CO-NR⁴⁵-R⁴⁶, -NR⁴⁵-CO-R⁴⁸,

-NR⁴⁵-CO-NR⁴⁶-R⁴⁷, -NR⁴⁵-CS-NR⁴⁶-R⁴⁷, -NR⁴⁵-CO-O-R⁴⁶,

-O-CO-NR⁴⁵-R⁴⁶, -O-CO-R⁴⁸, -CO-O-R⁴⁵, -CO-R⁴⁵, -SO₃-R⁴⁵,

-O-SO₂-R⁴⁸, -SO₂-R⁴⁵, -SO-R⁴⁸, -P(=O)(-O-R⁴⁵)(-O-R⁴⁶),

-O-P(=O)(-O-R⁴⁵)(-O-R⁴⁶), -NR⁴⁵-R⁴⁶, -O-R⁴⁵, -S-R⁴⁵, -CN,

20 -N(-CO-R⁴⁵)(-CO-R⁴⁶), -N-phthalimidyl, -M-N-phthalimidyl, or

-M-R⁴⁵, wherein M represents a divalent linking group containing 1

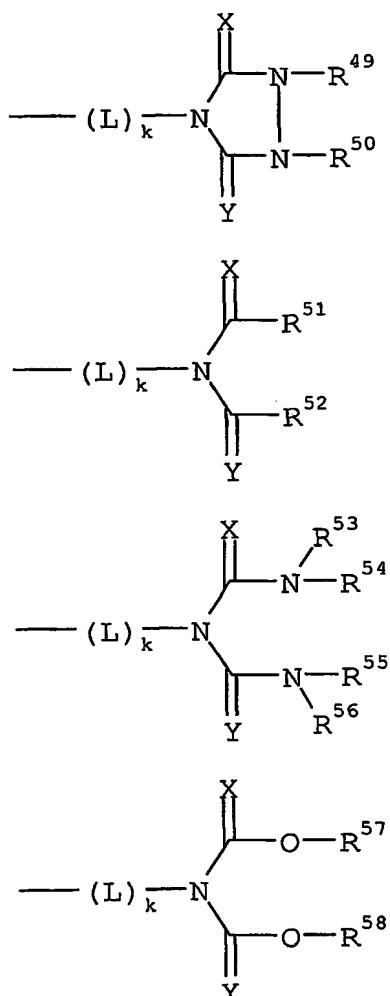
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to 8 carbon atoms,

wherein R⁴⁵ to R⁴⁷ are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group,

wherein R⁴⁸ is selected from an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group.

9. A polymer according to claims 1 or 2 wherein the N-imide group Q has one of the following formula:

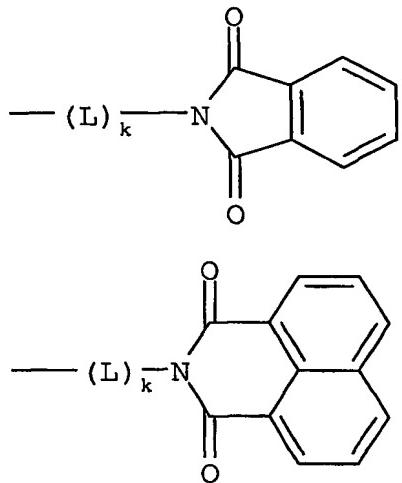


wherein R⁴⁹ to R⁵⁶ are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group,

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and wherein R⁵⁷ and R⁵⁸ are independently selected from an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group.

10. A polymer according to claims 1 or 2 wherein the N-imide group
5 Q has one of the following formula:



11. A polymer according to any of the preceding claims, wherein
said polymer comprising a phenolic monomeric unit is a novolac,
10 resol or polyvinylphenol.

12. A heat-sensitive lithographic printing plate precursor
comprising a support having a hydrophilic surface and an
oleophilic coating, provided on the hydrophilic surface, said
coating comprising an infrared light absorbing agent and a
15 polymer according to any of the preceding claims.

13. A lithographic printing plate precursor according to claim 12,
wherein said coating further comprises a dissolution inhibitor
and wherein said precursor is a positive working lithographic
printing plate precursor.

20 14. A lithographic printing plate precursor according to claim 13,
wherein said dissolution inhibitor is selected from
- an organic compound which comprises at least one aromatic
group and a hydrogen bonding site, and/or

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- a polymer or surfactant comprising siloxane or perfluoroalkyl units.

15. Use of a polymer, according to any of the claims 1 to 11, in a coating of a positive working heat-sensitive lithographic printing plate precursor, further comprising

- an infrared absorbing agent and
- a dissolution inhibitor,

for increasing the chemical resistance of the coating against printing liquids and press chemicals.

10 16. A lithographic printing plate precursor according to claim 12, wherein said coating further comprising a latent Brönsted acid and an acid-crosslinkable compound and wherein said precursor is a negative working lithographic printing plate precursor.

15 17. Use of a polymer, according to any of the claims 1 to 11, in a coating of a negative working heat-sensitive lithographic printing plate precursor, further comprising

- an infrared absorbing agent,
- a latent Brönsted acid and
- an acid-crosslinkable compound,

20 for increasing the chemical resistance of the coating against printing liquids and press chemicals.

